What is claimed is:

1. A method of treating an area affected by a trauma selected from corneal wounds and internal trauma comprising administering to the affected area a trauma treating effective amount of a composition comprising a polyanionic polymer that is (a) a pre-formed hydrolytically susceptible non-addition polyanionic polymer which is not a microgel, or (b) a clearable polymer.

2. The method of claim 1, wherein the clearable polymer is a pre-formed, hydrolytically susceptible polyanionic polymer comprising:

at least one linking moiety comprising a hydrolytically susceptible bond; and

linked to the linking moiety at least two polyanionic polymer segments,

wherein all polyanionic polymer segments in the polymer are linked to the whole by a said linking moiety, and or more of the polyanionic polymer segments in the composition have molecular weight of 50 kd or less.

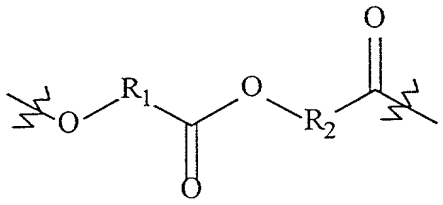
3. The method of claim 1, wherein the clearable polymer is a pre-formed, hydrolytically susceptible polyanionic polymer comprising:

polyanionic polymer segments, wherein 90% or more of the polyanionic polymer segments in the composition have molecular weight of 50 kd or less; and

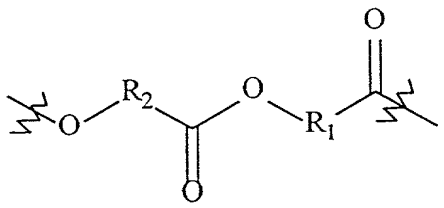
linking the polyanionic segments at least one linking moiety comprising

(a) a core which is a C_1 to C_{12} (preferably C_1 to C_{10} or C_1 to C_5) alkylene with three or more terminal oxy or thio groups or a mono or disaccharide with three or more terminal oxy groups;

(b) linked to each terminal oxy or thio, $-R^3{}_n-$, where n is zero or greater with the total sum of the n values being at least three, and the R^3 radicals are independently:



or



wherein the carbonyl radical is linked to the terminal oxy or thio, and wherein R^1 and R^2 are independently methylene or ethylene which can be substituted with up to two C_1 to C_4 alkyls; and

(c) the residue after incorporation into the polyanionic polymer segments of unsaturated moieties that are ester or ether linked to by oxy of R^3.

4. The method of claim 1, wherein the clearable polymer is a hydrolytically susceptible polyanionic polymer comprising:

two or more linearly linked polyanionic polymer segments linked via terminating oxo or thio moities derived from a hydroxide or thiol moieties; and

linker moieties cleavable at internal amide, ester or thioester bonds linking the linkers to form the linear polyanionic polymer segments.

5. The method of claim 1, wherein the linearly linked polyanionic segments are crosslinked hydrolytically susceptible linking moieties.

6. The method of claim 1, wherein the clearable polymer is a pre-formed, hydrolytically susceptible polyanionic polymer comprising:

7. The method of claim 1, wherein the corneal wound is a corneal ulcer, a corneal abrasion, or a chemical or physical insult to the cornea susceptible to giving rise to a corneal ulcer.

8. The method of claim 1, wherein the internal trauma (a) is an internal surgical wound, (b) comprises a trauma to a membrane that covers either an internal organ or tissue or the cavity in which one or more internal organs or tissues reside or (c) is susceptible of giving rise to adhesions and the amount of polyanionic polymer administered is an amount effective to inhibit or reduce formation or reformation of adhesions.

9. The method of claim 1, wherein the polyanionic polymer is a microgel.

10. The method of claim 1, wherein the polyanionic polymer is a pre-formed, hydrolytically susceptible non-addition polymer comprising polymer strands formed from at least one

ethylenically unsaturated monomer, wherein the polymer strands are linked by at least one linking moiety comprising a hydrolytically susceptible bond, wherein at least one of which monomers has:

i) one or more functional groups that can be titrated with base to form negatively charged functional groups, or

ii) one or more precursor groups that are precursors of the functional groups that can be titrated with base; which precursor groups are converted to the functional groups.

11. The method of claim 10, wherein the functional groups are selected from $-C(O)OR^4$; $-O-S(O_2)OR^4$, $-S(O_2)OR^4$; or $-S(O)OR^4$; wherein R^4 is hydrogen, and wherein precursor groups are selected from $-C(O)OR^4$, $-O-S(O_2)OR^4$, $-S(O_2)OR^4$, or $-S(O)OR^4$; wherein R^4 is independently C_1 - C_6 normal or branched alkyl, phenyl, or benzyl.

12. The method of claim 11 wherein the one or more ethylenically unsaturated monomers is according to the formula:

$$(R^3)(R^2)C=C(R^1)-X-Y$$

wherein:

Y is $-C(O)OR^4$; $-O-S(O_2)OR^4$; $-S(O_2)OR^4$; or $-S(O)OR^4$; wherein R^4 is hydrogen or a cleavage permitting group;

X is a direct bond; a straight or branched alkylene group having two to six carbon atoms, one or more of which can be replaced by O, S, or N heteroatoms, provided that there is no heteroatom in a position α or β to Y; phenylene; a five or six membered heteroarylene having up to three heteroatoms independently selected from O, S, and N, provided that neither Y or $R^3R^2C=C(R^1)-$ is bonded to a heteroatom; and

R^1, R^2, and R^3 are independently selected from, hydrogen, C_1-C_6 alkyl, carboxy, halogen, cyano, isocyanato, C_1-C_6 hydroxyalkyl, alkoxyalkyl having 2 to 12 carbon atoms, C_1-C_6 haloalkyl, C_1-C_6 cyanoalkyl, C_3-C_6 cycloalkyl, C_1-C_6 carboxyalkyl, aryl, hydroxyaryl, haloaryl, cyanoaryl, C_1-C_6 alkoxyaryl, carboxyaryl, nitroaryl, or a group -X-Y; wherein C_1-C_6 alkyl or C_1-C_6 alkoxy groups are either linear or branched and up to Q-2 carbon atoms of any C_3-C_6 cycloalkyl group, wherein Q is the total number of ring carbon atoms in the cycloalkyl group, are independently replaced with O, S, or N heteroatoms; with the proviso that neither doubly-bonded carbon atom is directly bonded to O or S; and wherein aryl is phenyl or a 5 or 6 membered heteroaryl group having up to three heteroatoms selected from the group consisting of O, S, and N.

13. The method of claim 1, wherein the polyanionic polymer has one or more pendant first functional groups selected from hydroxy, acyl halide, chloroformate, and mercapto; and wherein

the polyanionic polymer is crosslinked by reaction of a crosslinking agent having second functional groups reactive with the first functional groups.

14. The method of claim 1, wherein the polyanionic polymer is crosslinked with a crosslinking agent that comprises an ethylenically unsaturated derivative of a multidentate compound, comprising two or more two or more ethylenically unsaturated moieties, each such moiety being linked to the multidentate compound through a hydrolytically susceptible bond.

15. The method of claim 1, wherein the composition further comprises a trauma treating effective amount of a protease.

16. A method of treating a wound comprising administering to the affected area an effective amount of a composition comprising a first polymer which is (a) a pre-formed hydrolytically susceptible polyanionic polymer which is not a microgel, or (b) a clearable polymer.

17. The method of claim 16, wherein the first polymer is (a) a pre-formed hydrolytically susceptible first polyanionic polymer wherein the first polyanionic polymer comprises polymer strands formed from at least one ethylenically unsaturated monomer, wherein the polymer strands are linked by at least one linking moiety comprising a hydrolytically susceptible bond, or (b) a microgel comprising a crosslinked second polyanionic polymer made by polymerization of one or more ethylenically unsaturated crosslinking agents and one or more ethylenically unsaturated monomers, wherein for (a) and (b) at least one of which monomers has:

i) one or more functional groups that can be titrated with base to form negatively charged functional groups, or

ii) one or more precursor groups that are precursors of the functional groups that can be titrated with base; which precursor groups are converted to the functional groups;

wherein at least one of the following is true:

a) the first or second polyanionic polymer is crosslinked with an ethylenically unsaturated crosslinking agent and the mole fraction of ethylenic double bonds in the combination from which the polyanionic polymer is made that is contributed by the ethylenically unsaturated crosslinking agent is 0.02 or less; or

b) the first or second polyanionic polymer is a microgel, wherein the ratio of macroviscosity of the microgel to the microviscosity of the microgel is 10,000 or less.

18. A method of treating an inflammatory disease comprising administering to an area affected by the disease, an inflammatory disease treating effective amount of a composition

comprising a protease that has an activity comprising at least two of a chymotrypsin, trypsin, collagenase, and elastase activity, wherein the inflammatory disease is cervical spondylosis, cumulative trauma disorder, endometriosis, pelvic inflammatory disease, adhesive peritonitis, appendicitis, peridentitis, pericarditis or pleuritis.

19. A method of treating a corneal wound comprising administering to an affected area an effective amount of a composition comprising a protease that has an activity comprising at least two of a chymotrypsin, trypsin, collagenase, and elastase activity.

20. A method of isolating a multifunctional proteolytic enzyme from a biological specimen comprising extracting the multifunctional proteolytic enzyme using fresh water; wherein the biological specimen is not mechanically disrupted; further comprising applying the fresh water extract to an affinity column having a ligand, wherein the ligand is aminophenylboronate.

21. A method of treating an inflammatory disease comprising administering to an area affected by the disease an inflammatory disease treating effective amount of a composition comprising a polyanionic polymer.

22. The method of claim 21, wherein the composition comprises a hydrolytically susceptible polyanionic polymer.

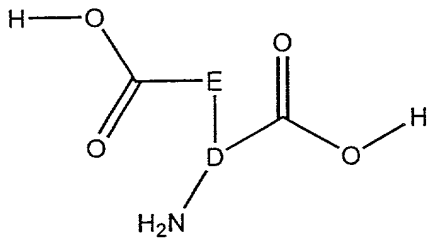
23. A method for reducing or inhibiting formation or reformation of adhesions comprising the step of administering to an area affected by a trauma susceptible to giving rise to adhesions an effective amount of a composition comprising a polyanionic polymer that is (a) a pre-formed hydrolytically susceptible polyanionic polymer which is not a microgel, or (b) a clearable polymer.

24. A method of inhibiting or reducing the formation of adhesions following implantation of an implantable device comprising treating a surgical implant with a composition comprising (a) a pre-formed hydrolytically susceptible polyanionic polymer which is not a microgel,or (b) a clearable polymer.

25. A method of treating an inflammatory disease comprising administering to an area affected by the disease an inflammatory disease treating effective amount of a composition

comprising a polymer, wherein the polymer comprises a polypeptide comprising residues of one or more polycarboxylic amino acids.

26. The method of claim 25, wherein the dicarboxylic amino acid has the formula:



wherein;

D is a straight or branched alkyl or alkylene having substituent E that is a straight or branched alkyl or alkylene wherein D and E taken together have up to 10 carbon atoms.